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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,514	02/13/2004	Pei-Chung Wang	GP-302444	8905

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EXAMINER	
KERNS, KEVIN P	

ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/779,514	WANG ET AL.	
	Examiner	Art Unit	
	Kevin P. Kerns	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/13/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, the abstract is greater than 150 words and reads substantially the same as the claim language of independent claims 1 and 14.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2, 5, 8-10, 13-15, 18-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (US 5,473,133) in view of JP 5-285669.

Peterson discloses a method of welding and a projection weld bond system, in which the method/system includes the steps of providing first and second conductive workpieces (20,21), in which one of the workpieces includes a plurality of projections 24; contacting a portion of the workpieces (20,21) together; and conducting electricity between the workpieces (20,21) through the projections 24 via a pair of roller electrodes (28,29), such that the projections (24a-24e) have base widths ranging between 0.8 to 10 mm and are melted progressively during welding (abstract; column 1, lines 6-9; column 2, lines 66-67; column 3, lines 1-15 and 46-67; column 4, lines 1-14 and 26-67; column 5, line 1 through column 12, line 26; and Figures 1-6). Peterson does not disclose the use of a welding adhesive between the workpieces.

However, JP 5-285669 discloses a method for joining plate materials via projection welding, in which the method includes the steps of providing first workpiece 1 having projections 4; providing second workpiece 2; applying a non-conductive welding adhesive 5 between the workpieces and projections; and energizing electrodes (6,7) while forcing the workpieces (1,2) together to firmly join plate materials, such that the use of the welding adhesive is advantageous for providing smooth energizing to the

projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (abstract; and Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of welding and the projection weld bond system, as disclosed by Peterson, by using the welding adhesive between the workpieces, as taught by JP 5-285669, in order to provide smooth energizing to the projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (JP 5-285669; abstract).

5. Claims 1, 5, 8-10, 14, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Costigan (US 4,901,135), Elofson (US 5,883,354), and JP 63-295072 (insofar as definite without a complete translation of the Japanese document) in view of JP 5-285669.

Costigan discloses a method of welding and a projection weld bond system, in which the method/system includes the steps of providing first and second conductive workpieces (12,20), in which one of the workpieces includes a plurality of projections 26; contacting a portion of the workpieces (12,20) together; and conducting electricity between the workpieces (12,20) through the projections 26 via a pair of electrodes (abstract; column 1, lines 7-12 and 52-62; column 2, lines 4-64; and Figures 1 and 2).

Also, Elofson discloses a method of welding and a projection weld bond system, in which the method/system includes the steps of providing first and second conductive workpieces (1,2), in which one of the workpieces includes a plurality of projections (3,4);

contacting a portion of the workpieces (1,2) together; and conducting electricity between the workpieces (1,2) through the projections (3,4) via a pair of electrodes (9,10) (abstract; column 2, lines 37-67; column 3, lines 1-41; column 4, lines 31-67; column 5, line 1 through column 7, line 32; and Figures 6 and 7).

In addition, JP 63-295072 discloses a method of welding and a projection weld bond system, in which the method/system includes the steps of providing first and second conductive workpieces (3,4), in which one of the workpieces includes a plurality of projections 6; contacting a portion of the workpieces (3,4) together; and conducting electricity between the workpieces (3,4) through the projections 6 via a pair of electrodes (1,2) (abstract; and Figures 1-12).

Neither Costigan, Elofson, nor JP 63-295072 discloses the use of a welding adhesive between the workpieces.

However, JP 5-285669 discloses a method for joining plate materials via projection welding, in which the method includes the steps of providing first workpiece 1 having projections 4; providing second workpiece 2; applying a non-conductive welding adhesive 5 between the workpieces and projections; and energizing electrodes (6,7) while forcing the workpieces (1,2) together to firmly join plate materials, such that the use of the welding adhesive is advantageous for providing smooth energizing to the projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (abstract; and Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of welding and the projection weld

bond system, as disclosed by any one of Costigan, Elofson, or JP 63-295072, by using the welding adhesive between the workpieces, as taught by JP 5-285669, in order to provide smooth energizing to the projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (JP 5-285669; abstract).

6. Claims 1-10 and 12-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6,373,021) in view of JP 5-285669.

Wang et al. disclose a method of welding and a projection weld bond system, in which the method/system includes the steps of providing first and second hydroformed conductive workpieces (10,12), in which one of the workpieces includes a plurality of projections (28a-28d); contacting a portion of the workpieces (10,12) together; and conducting electricity between the workpieces (10,12) through the projections (circular protrusions 28a-28d arranged concentrically and having progressively smaller diameters) via a pair of electrodes (44,46), such that the projections (28a-28d) have lengths ranging between 0.4 to 0.6 mm and are melted progressively during welding (abstract; column 1, lines 29-46; column 2, lines 6-67; column 3, lines 1-30; and Figures 1-4). Wang et al. do not disclose the use of a welding adhesive between the workpieces.

However, JP 5-285669 discloses a method for joining plate materials via projection welding, in which the method includes the steps of providing first workpiece 1 having projections 4; providing second workpiece 2; applying a non-conductive welding

adhesive 5 between the workpieces and projections; and energizing electrodes (6,7) while forcing the workpieces (1,2) together to firmly join plate materials, such that the use of the welding adhesive is advantageous for providing smooth energizing to the projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (abstract; and Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of welding and the projection weld bond system, as disclosed by Wang et al., by using the welding adhesive between the workpieces, as taught by JP 5-285669, in order to provide smooth energizing to the projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (JP 5-285669; abstract).

7. Claims 1, 5-11, 14, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabbianelli et al. (US 6,566,624) in view of JP 5-285669.

Gabbianelli et al. disclose a method of welding and a projection weld bond system, in which the method/system includes the steps of providing first and second hollow hydroformed conductive workpieces (18,22), in which one of the workpieces includes a plurality of projections 14; contacting a portion of the workpieces (18,22) together; and conducting electricity between the workpieces (18,22) through the projections 14 via a pair of electrodes (46,48) (abstract; column 1, lines 45-67; column 2, lines 1-67; column 3, line 50 through column 14, line 27; and Figures 1-4 and 9-11).

Gabbianelli et al. do not disclose the use of a welding adhesive between the workpieces.

However, JP 5-285669 discloses a method for joining plate materials via projection welding, in which the method includes the steps of providing first workpiece 1 having projections 4; providing second workpiece 2; applying a non-conductive welding adhesive 5 between the workpieces and projections; and energizing electrodes (6,7) while forcing the workpieces (1,2) together to firmly join plate materials, such that the use of the welding adhesive is advantageous for providing smooth energizing to the projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (abstract; and Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of welding and the projection weld bond system, as disclosed by Gabbianelli et al., by using the welding adhesive between the workpieces, as taught by JP 5-285669, in order to provide smooth energizing to the projections of the workpiece while promoting spreading of the adhesive, which results in firmly joined plate materials (JP 5-285669; abstract).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Vowels, Clarke, Strecker, and Yamada et al. references are also cited in PTO-892.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin P. Kerns Kevin Kerns 9/15/05
Primary Examiner
Art Unit 1725

KPK
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September 15, 2005